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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* AMIT PHADNIS, PANKAJ VYAS, and  
CHANDRAHASA CHAKRAVARTHI PULLAGURA

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Appeal 2008-005300  
Application 09/785,884  
Technology Center 2400

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Decided: October 21, 2009

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Before LANCE LEONARD BARRY, HOWARD B. BLANKENSHIP, and  
THU A. DANG, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Patent Examiner rejected claims 1-50, 59, 60, and 67-85. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

#### INVENTION

The invention at issue on appeal "minimizes the overhead on a communication network caused by processing keep-alive status messages by aggregating several such messages into a single packet ('aggregated request packet') . . . and transmitting the single packet on the communication network." (Spec. 4.) "A reply message ("aggregated reply packet") received on the communication network may also contain the status of multiple sessions, thereby further reducing the data overhead." (*Id.*)

#### ILLUSTRATIVE CLAIM

1. A method of processing a plurality of keep-alive messages generated by a corresponding plurality of end systems, each of said plurality of keep-alive messages being designed to request the status of a corresponding point to point (PPP) session implemented on a communication network, said method comprising:

receiving in an aggregation device said plurality of keep-alive messages;

generating in said aggregation device an aggregated request packet which includes data indicating that the status of said PPP sessions is requested; and

sending said aggregated request packet to a peer aggregation device.

#### PRIOR ART

Pereira	US 5,781,726	Jul. 14, 1998
Chao	US 5,964,837	Oct. 12, 1999
Ketcham	US 6,721,334 B1	Apr. 13, 2004

Simpson, (RFC I66I: *Point-to-Point Protocol*, July 1994).

Rosenberg et al., (*An RTP Payload Format for User Multiplexing*, May 1998), available at <http://tools.ietf.org/html/draft-ietf-avt-aggregation-00.txt>

#### REJECTIONS

Claims 1-4, 8-10, 14-16, 21-23, 25, 29, 30, 35-40, 42, 46-50, 59, 60, 69, 72, 75, and 78-85 stand rejected under 35 U.S.C. § 103(a) over Ketcham and Pereira.

Claims 5-7, 11, 13, 17-19, 24, 26, 28, 31, 32, 34, 41, 43, and 45 stand rejected under 35 U.S.C. § 103(a) over Ketcham, Pereira, and Chao.

Claims 12, 20, 27, 33, and 44 stand rejected under 35 U.S.C. § 103(a) over Ketcham, Pereira, Chao, and Simpson.

Claims 67, 68, 70, 71, 73, 74, 76, and 77 stand rejected under 35 U.S.C. § 103(a) over Ketcham, Pereira, and Rosenberg.

#### CLAIMS 1, 8, 9, 15, 16, 21, 37, 59, 69, 75, AND 78

The Appellants argue claims 1, 15, 21, and 37 as a group. (App. Br. 12.) Rather than arguing the rejection of claims 8, 9, 16, 59, 69, 75, or 78 separately, they rely on their argument for the group. (*Id.* 25.) Therefore, claims 8, 9, 15, 16, 21, 37, 59, 69, 75, and 78 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

#### ISSUE

The Examiner concludes that "[i]t would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Ketcham by adding the ability to use keep-alive messages as the data packets as provided by Pereira." (Ans. 4.) The Appellants make the following argument.

As the technique of Pereira is an alternative technique to the claimed invention, it would lead away from the claimed invention. The technique of Pereira is an alternative technique to a similar problem as in claim 1 since Pereira transmits polling traffic related to a single session while blocking the polling traffic related to other sessions to the same destination.

(App. Br. 15.) Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that one of ordinary skill in the art would have had reason to modify Ketcham by adding the ability to use keep-alive messages as taught by Pereira.

#### LAW

"What the prior art teaches and whether it teaches toward or away from the claimed invention . . . is a determination of fact." *Para-Ordnance Mfg., Inc. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1088 (Fed. Cir. 1995). "The prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternative because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed . . ." *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

#### FINDING OF FACT (FF)

1. Pereira includes the following disclosure.

When two devices are physically connected via communications media, such as a local area network LAN or a wide area network WAN, the devices may use a connection oriented protocol such as specified in IEEE 802.2 Type 2 standards, to ensure a link layer reliable transfer of information from one device to another. . . . When the devices have no information to transfer, they typically continue to send polling traffic, such as the receive ready RR and receiver not ready protocol data units of the 802.2 Type 2 standard, between each other to keep the connection up and maintain data transfer ready state. In this manner, the devices are ready to transfer data immediately when required, without waiting for the completion of a set up process to get into a data transfer state before transferring information data.

(Col. 1, ll. 14-33.)

#### ANALYSIS

Pereira discloses that keep-alive messages ensure devices are ready to transfer data immediately when required. (FF 1.) Although the Appellants may be correct that Pereira also describes a technique for transmitting polling traffic related to a single session while blocking polling traffic related to other sessions to the same destination, the Examiner does not rely on the reference for this technique. He relies on Pereira merely for its teaching of keep-alive messages. Furthermore, we disagree with the Appellants that the reference's mere disclosure of "an alternative technique" (Appeal Br. 15) constitutes a teaching away from any of the claimed invention because such disclosure does not criticize, discredit, or otherwise discourage the invention.

#### CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's finding that one of ordinary skill in the art would have had reason to modify Ketcham by adding the ability to use keep-alive messages as taught by Pereira.

#### CLAIMS 2, 3, 22, 38, 39, AND 47-50

The Appellants argue claims 2, 38, and 47 as a group. (App. Br. 16.) Rather than arguing the rejection of claims 3, 22, 39, or 47-50 separately, they rely on their argument for the group. (*Id.* 17, 25.) Therefore, claims 3, 22, 38, 39, and 47-50 stand or fall with claim 2.

#### ISSUE

The Examiner finds that "one would have reasonably expected that combining Ketcham's teaching of waiting a certain time period for aggregating packets and Pereira's teaching of waiting a certain time period to receive a first reply to a keep-alive message would be successful." (Ans. 32-33.) The Appellants make the following argument.

[T]he chances of router 314 of Ketcham including in an aggregated reply packet the status of the same set of sessions as those requested in an aggregated request packet, is random.

Therefore, the probability of success of the combination of Ketcham and Pereira operating as in claim 2 is random. (App. Br. 17.) Therefore, the issue before us is whether the Appellants have shown that there was no reasonable expectation of success in combining teachings of Ketcham and Pereira.

## LAW

The presence or absence of a reason "to combine references in an obviousness determination is a pure question of fact." *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). "Obviousness does not require absolute predictability. . . Only a reasonable expectation that the beneficial result will be achieved is necessary to show obviousness." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (internal citations omitted).

## ANALYSIS

We agree with the Examiner that the "Appellant's [sic] argument confuses the standards for a reasonable expectation of success." (Answer 32.) "[T]he test is not centered on whether success would be random but whether success could be reasonably predicted." (*Id.*)

Here, we find no support for the contention that the Examiner's proffered combination of Ketcham and Pereira would not have a reasonable expectation of success or that the Examiner has failed to establish such a reasonable expectation of success in formulating the rejection. In contrast, we find the predictable use of familiar prior art elements according to their established functions would have conveyed a reasonable expectation of success to a person of ordinary skill at the time of the invention.

#### CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have not shown that there was no reasonable expectation of success in combining teachings of Ketcham and Pereira.

#### CLAIMS 4, 10, 11, 12-14, 23, 25, 26-36, 40, 42-46, 60, 72, AND 79-85

The Appellants argue claims 4, 23, and 40 as a first group (App. Br. 18); claims 10, 25, 30, and 42 as a second group (*id.* 23); claims 11, 26, 31, and 43 as a third group (*id.* 24); and claims 79-85 as a fourth group (*id.* 22). Rather than arguing the rejection of claims 12-14, 27-29, 32-36, 44-46, 60, or 72 separately, they rely on their argument for the second group. (*Id.* 25.) Therefore, claims 23 and 40 stand or fall with claim 4; claims 12-14, 25, 27-30, 32-36, 42, and 44-46, 60, and 72 stand or fall with claim 10; claims 26, 31, and 43 stand or fall with claim 11; and claims 80-85 stand or fall with claim 79.

#### ISSUE

Regarding claim 4, the Examiner makes the following findings.

Ketcham discloses sending response packets to terminals that do not support aggregated packets. (Col. 3, 11. 14-20 and col. 4, 11. 58-63). Combined with Pereira, the combination teaches submitting keep alive reply messages to those terminals that do not support aggregated packets. The keep alive reply message is sent without the need of waiting for the aggregated reply packet because the terminal does not support aggregated packets.

(Ans. 33.) The Appellants argue that "Pereira, column 5 lines 45-47 . . . request polls, but is silent on when the responses are generated." (Appeal Br. 18.)

Regarding claim 10, the Examiner finds that "examining said aggregated request packet to determine that the status of said plurality of point-to-point sessions is requested" is taught by "Ketcham, column 8, lines 15-22, wherein the aggregated packet contains the poll requests as disclosed by Pereira) . . ." (Answer 6.) The Appellants argue that "[t]here is no disclosure or suggestion in Ketcham that the content of a received aggregated request packet is examined to determine the specific point-to-point [sic] sessions, for which the status is requested." (Appeal Br. 24.)

Regarding claim 11, the Examiner finds that "Chao teaches retrieving local connectivity information for the connections from a node; the connectivity information reads on the status information of the session. (Col. 5, 11. 52-58)." (Answer 36.) The Appellants "believe[ ] that in the Examiner's construction of the combination of Ketcham and Pereira, router 314 would rely on status packets received from external to router 314." (Appeal Br. 25.)

Regarding claim 79, the Examiner finds that "said receiving, said generating and said sending are performed in an aggregation device implemented as a single device (Ketcham, figure 4, item 308)." (Answer 16.) The Appellants argue "that the art of record, even in combination does not teach or reasonably suggest the feature of ' . . . wherein

said receiving, said generating and said sending are performed in an aggregation device implemented as a single device . . . ." (Appeal Br. 22-23.)

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's findings regarding claims 4, 10, 11, or 79.

#### LAW

"The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art." *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *Keller*, 642 F.2d at 425). In determining obviousness, furthermore, a reference "must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole." *Id.*

"It is not the function of [the U.S. Court of Appeals for the Federal Circuit] to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art." *In re Baxter Travenol Labs.*, 952 F.2d 388, 391 (Fed. Cir. 1991). Similarly, it is not the function of this Board to examine claims in greater detail than argued by an appellant, looking for distinctions over the prior art.

#### ANALYSIS

The Examiner makes specific findings regarding the obviousness of claims 4, 10, 11, and 79. More specifically, he relies on columns 3 and 4 of Ketcham in combination with Pereira to have suggested the limitations of claim 4; column 8 of Ketcham in combination with Pereira to have suggested the limitations of claim 10; column 5 of Chao to teach the limitations of claim 11; and element 308 of Ketcham to teach the limitations of claim 79.

The Appellants do not address, let alone show error in these specific findings. Regarding claim 4, they argue about a different column (of Ketcham) than the one relied on by the Examiner and ignore Pereira. Regarding claim 10, they argue about Ketcham but ignore Pereira. Regarding claim 11, they argue about Ketcham and Pereira but ignore Chao. Regarding claim 79, they argue about different elements of Ketcham and Pereira.

#### CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's findings regarding claims 4, 10, 11, and 79.

#### CLAIMS 5-7, 17-20, 24, AND 41

The Examiner finds that "Chao also teaches updating the topology map based on reply packets received from polled nodes. (Col. 6, 11. 33-48)." (Answer 34.) The Appellants argue that "Chao merely discloses

polling and event monitoring based techniques, which are both initiated from within management of Chao, to update the topology table." (Appeal Br. 20.)

#### ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that Ketcham, Pereira, and Chao would have suggested using an aggregated reply packet to update a remote status table.

#### LAW

"The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." *In re Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994) (citing *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983)).

#### FINDING OF FACT (FF)

2. Claim 5 recites in pertinent part the following limitations: "updating said remote status table with the information in said aggregated reply packet . . ." Claims 17, 24, and 41 recite similar limitations. Claims 6, 7 depend from, and incorporate all the limitations of, claim 5. Claims 18-20 depend from, and incorporate all the limitations of, claim 17.

#### ANALYSIS

Considering all the limitations (FF 2), claims 5-7, 17-20, 24, and 41 require updating a remote status table with data in an aggregated reply packet, wherein the data was "received based on reception of keep-alive

messages from the end system." (Appeal Br. 20.) Although the Examiner finds that Chao updates its topology map based on reply packets received from polled nodes, he does not address the use of an aggregated reply packet to update the topology map.

#### CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown error in the Examiner's finding that Ketcham, Pereira, and Chao would have suggested using an aggregated reply packet to update a remote status table.

#### CLAIMS 67, 68, 70, 71, 73, 74, 76, AND 77

The Appellants argue claims 67, 68, 70, 71, 73, 74, 76, and 77 as a group. (App. Br. 21.) Therefore, claims 68, 70, 71, 73, 74, 76, and 77 stand or fall with claim 67.

#### ISSUE

The Examiner makes the following conclusion.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Ketcham and Pereira by adding the ability for the message aggregator to generate less data in the aggregated message than the data forming the plurality of messages together as provided by Rosenberg.

(Answer 26.) The Appellants make the following argument.

Rosenberg is directed to multiplexing real-time transport protocol (RTP) in the context of voice applications and public switched telephone networks (PSTN), which is a different

technological area from the other references relied upon in the rejection. The intuitive connection required between the references is simply lacking and thus renders Rosenberg unsuitable for combining with the teachings of Pereira and Ketcham.

(Appeal Br. 22.) Therefore, the issue before us is whether the Appellants have shown error in the Examiner's reliance on Rosenberg.

#### LAW

"Whether a reference in the prior art is 'analogous' is a fact question." *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992) (citing *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 n.9 (Fed. Cir. 1987)). Two criteria have evolved for answering the question: "(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *Id.* at 658-59 (citing *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979)). "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *Id.* at 659. "To qualify as analogous art under the second criterion, . . . we do not believe that a prior art reference need be reasonably pertinent to each and every problem with which an inventor is involved; reasonable pertinence to a single such problem suffices." *Ex parte Gaechter*, 65 USPQ2d 1690, 1692 (BPAI 2002).

#### FINDINGS OF FACT

3. The Appellants' invention "invention minimizes the overhead on a communication network caused by processing keep-alive status messages by aggregating several such messages into a single packet . . . and transmit[s] the single packet on the communication network." (Spec. 4.)

4. Rosenberg "describes an RTP payload format for multiplexing data from multiple users into a single RTP packet. Such multiplexing is especially useful for transporting voice data between Internet telephony gateways. It causes significant reductions in header overheads . . ."  
(Abstract.)

#### ANALYSIS

Here, one of the problems with which the Appellants are involved is minimizing overhead. (FF 3.) Rosenberg is also concerned with reducing overhead. (FF 4.) Because the reference is reasonably pertinent to a problem with which the Appellants are involved, we find that it constitutes analogous art.

#### CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's reliance on Rosenberg.

DECISION

We affirm the rejection of claims 1-4, 8-10, 11-16, 21-23, 25-40, 42-50, 59, 60, and 67-85. In contrast, we reverse the rejection of claims 5-7, 17-20, 24, and 41.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED-IN-PART

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